

CLAIMS

- 1) Method for initiating, receiving, controlling and managing all types of communications such as telephone calls, facsimile transmissions, SMS and/or MMS messages, video communications, e-mail messages, chat, and multimedia communications in general, wherein all the inbound and outbound communications are enabled, controlled and managed, either individually or in multiple communications mode, even mixing different types of all said communications, by using an Internet Web Browser and without the need for any telephone switchboard or exchange system (PBX, PABX, IPPBX).
- 2) Method as claimed in claim 1, capable of using a single central processor or Network Server (27) and a single Local Area Network (LAN) (1) infrastructure for transporting data and all the communications between the Communications Devices and/or Terminals (2, 3, 4, 5, 7, 8, 10) connected to the said Local Area Network LAN (1).
- 3) Method as claimed in the preceding claims, capable of permitting the initiation, reception, control and management of all types of communications, including those from Communications Devices and/or Terminals situated in remote locations, either stand alone devices (12) or devices associated (29) with other remote LANs (13), the said Communications Devices or Terminals (12, 29) being in any event connected through digital networks including the Internet (11) to the Local Area Network LAN (1), to which LAN (1) the said central electronic processor or Network Server (27) is associated, the said remote Communications Devices and/or Terminals (12, 29) interacting through the said central processor or Network Server (27), both amongst themselves and with the Communications Devices and/or Terminals (2, 3, 4, 5, 7, 8, 10) connected to the said local computer network LAN (1).
- 4) Method as claimed in the preceding claims, capable of interacting, through direct and/or indirect connections, between the said central processor or Network Server (27) and the communications terminals of public and private communications networks for wired telecommunications and videocommunications (26) as well as communications networks for wireless telecommunications or videocommunications (24) and satellite networks.
- 5) Method as claimed in the preceding claim, capable of interacting, through direct and/or indirect connections, between the Communications Devices and Terminals (2, 3, 4, 5, 7, 8, 10, 12, 29, 28) connected to the said LAN (1) or to remote LANs (13) and/or the Internet (11) or satellite networks and the communications terminals of the users of the said public and private communications networks for wired telecommunications and videocommunications (26) as well as communications networks for wireless telecommunications or videocommunications (24).
- 6) Method as claimed in the preceding claims, capable of activating, controlling and managing each communications channel (16, 17, 18, 19, 20, 21, 22) of all the said types of communications through a single software programme equipped with a single central software nucleus (15) (KERNEL) installed on the said central processor or Network Server (27), using interactive graphic interfaces (30) enabled by a section (14) (Web Services) of the said central processor or network server (27) and displayed on the visual display panels of the Communications Devices or Terminals (2, 3, 4, 5, 7, 8, 10, 12, 29, 28) connected to the said Local Computer Networks LANs (1, 13), satellite networks, the Internet (11) or other networks.
- 7) Method as claimed in the preceding claims, capable of activating, through the access to specific sections of the Database (23) by an Internet Web Browser

comprising of at least one graphic toolbar (30) featuring two distinct groups of interactive icons (31, 32), the operating functions for all types of communications management and the display showing the data pertaining to the caller and the party called, as well as other data pertaining to the said ongoing communications (38).

5 8) Method as claimed in the preceding claims, capable of enabling, receiving, controlling and managing all said types of communications through the use of an Internet Web Browser, with the standard Communications Devices and/or Terminals (2, 3, 4, 5, 7, 8, 10, 12, 29) normally used by users, such as the Screens or Visual Display Panels of Personal Computers or standard telephones, without the use of any
10 specific communications equipment custom-designed to support the aforesaid functions of initiating, receiving, controlling and managing all the said types of communications.

9) Method as claimed in the preceding claims, capable of carrying out the said functions of initiating, receiving, controlling and managing all the said types of
15 communications regardless of the type of OPERATING SYSTEM that drives the PC or other Devices connected to Local Area Networks LANs (1, 13), to Internet (11), to satellite network, to other networks.

10) Method as claimed in the preceding claims, capable of logging and storing in a single DATABASE (23) all the data pertaining to all the communications effected
20 through any Communications Device and/or Terminal (2, 3, 4, 5, 7, 8, 10, 12, 29, 28) connected to and/or interacting with the LAN (1) or group of LANs (1, 13), satellite network, other networks.

11) Method as claimed in the preceding claims, capable of routing each call only after the system has automatically searched for and selected the cheapest
25 communications network available for each type of communication placed from Communications Devices and/or Terminals (2, 3, 4, 5, 7, 8, 10, 12, 29, 28) connected to LANs (1, 13) to Communications Devices and/or Terminals connected to the same LANs or to other public or private wired (26) or wireless (24) telecommunications or videocommunications networks, or satellite or other types of
30 networks.

12) Method as claimed in the preceding claims, capable of searching and selecting automatically the cheapest communications network (49, 50, 51) when the calls placed from Communications Devices or Terminals (40, 41, 43, 44, 53, 54, 58, 60) connected to LANs (48, 61) that are part of the in-house communications
35 infrastructure of the same corporate group or company are addressed to the party called using this same method and belonging to a specific wired or wireless telephony or videophony number grouping.

13) Method as claimed in the preceding claims, capable of searching and selecting automatically the cheapest communication network (49, 50, 51) when the calls placed from the Communications Devices or Terminals (40, 41, 43, 44) connected to the LAN (48) addressed to the Communication Devices or Terminals (53, 54, 58, 60), connected to LAN (61) that do not belong to the communications infrastructure of the same group or corporation, in the case where the parties called, who use the same method, belong to a specific wired or wireless telephony or videophone
45 number grouping, are managed and addressed to the party called by an Internet Service Provider or Third Party (52) entrusted with the task of discriminating access, and as a result, enable the connection only between authorised numbers, assuring secure access to the LAN and to the Communications Devices and/or Terminals called (53, 54, 58, 60), through authentication upon the initiation of the call,
50 belonging to the said specific number grouping.

- 14) Method as claimed in one or more of the preceding claims, capable of permitting, through the use of an Internet Web Browser, to enable, receive, control and manage all said types of communications to and from communications terminals connected to public and private communications networks for wired (26) and wireless (24) telecommunications and videocommunications, satellite or other networks, even through Communications Devices and Terminals stand alone (12) or connected (29) to LANs (13) situated in remote locations and in any event connected through digital networks or the Internet to the Local Area Network LAN (1) that incorporates the said central processor or Network Server (27).
- 15) Method as claimed in the preceding claims, capable of initiating, receiving, controlling and managing all said types of communications even between Communications Devices and/or Terminals situated in remote locations either stand-alone (12) or connected (29) to LANs (13) situated in remote locations, themselves connected to the LAN (1), that incorporates the said central processor or Network Server (27), through digital networks or the Internet.
- 16) Method as claimed in one or more of the preceding claims, capable, through an Internet Web Browser incorporating one or more Toolbars (30), of enabling, receiving, monitoring and managing, from any Communications Device or Terminal (40, 41, 43, 44) connected to the LAN (48), equipped or associated with a visual display panel, one or more simultaneous outbound calls (37) sent automatically or manually by the caller (40, 41, 43, 44) over various telecommunications and/or videocommunications networks (49, 50, 51) so as to reach the party called (53, 54, 58, 60) connected to another LAN (61), such called party being able to use the said method and the said Internet Web Browser incorporating one or more Toolbars (30) to enable, receive, monitor and manage one or more simultaneous telecommunications and/or videocommunications calls (39).
- 17) Apparatus for initiating, receiving, controlling and managing all types of communications, such as telephone calls, facsimile transmissions, SMS and/or MMS messages, video communications, e-mail messages, interactive chats, and multimedia communications in general, said apparatus comprising a single central processor or Network Server (27) and a single type of Local Area Network LAN (1) infrastructure for transporting data and all the communications on the same LAN(1), without the need for any telephone switchboard or exchange system (PBX, PABX, IPPBX).
- 18) Apparatus as claimed in the preceding claim, wherein the said central processor or Network Server (27) incorporates the resources for interacting, through direct and/or indirect connections with public and private communications networks for wired (26) and wireless (24) telecommunications and videocommunications, and satellite networks, and accordingly, such central processor or Network Server (27) being therefore capable of connecting with the communications terminals of the users of the said networks (26, 24, etc.) as well as of connecting the latter with the Communications Devices and Terminals (2, 3, 4, 5, 7, 8, 10, 12, 29, 28) connected to the LANs (1, 13), satellite networks or the Internet (11).
- 19) Apparatus as claimed in the preceding claims, wherein the said central processor or Network Server (27) features a single installed software programme equipped with a "single software nucleus" known as the KERNEL (15) that enables the initiation, reception, control and management of each communications channel (16, 17, 18, 19, 20, 21, 22) of all the said types of communications through the display of an Internet Web Browser incorporating a toolbar (30) that interacts with the Web Services section (14).

20) Apparatus as claimed in any claim from 17 to 19, wherein an Internet Web Browser is used to display and/or make available the initiation, reception, control and management of the said overall communications on standard Communications Devices and/or Terminals (2, 3, 4, 5, 7, 8, 10, 12, 29, 28) normally used by users, such as the Screens or Visual Display Panels of Personal Computers and standard telephones, without the use of any specific communications equipment custom-designed to support the aforesaid functions of initiating, receiving, controlling and managing the said overall communications.

21) Apparatus as claimed in the preceding claims, wherein the said functions of initiating, receiving, controlling and managing all the said types of communications are carried out regardless of the type of OPERATING SYSTEM that drives the PC or other Devices connected to Local Area Networks LANs (1, 13), to Internet, to satellite network, to other networks.

22) Apparatus as claimed in one of the preceding claims, wherein all the data pertaining to all the communications effected through any Communications Device and/or Terminal (2, 3, 4, 5, 7, 8, 10, 12, 29, 28) connected to and/or interacting with the LAN (1) or group of LANs (1, 13), are logged and stored in a single DATABASE (23).

23) Apparatus as claimed in any claim from 17 to 22, wherein said processor incorporates:

- logical-functional sections designed to support and manage all the said types of communications;
- at least one section for the storage, in a single centralised Database, of the settings associated with said devices as well as of the log of the historical data pertaining to the said communications.

24) Apparatus as claimed in the preceding claim, wherein the said logical-functional sections are dedicated:

- to interfacing (16 – 22) the said apparatus with the Communications Devices and/or Terminals connected to the local area network LAN (1), the wired and wireless telecommunications networks as well as other computer networks, including the Internet;
- to managing (15) the said communications between the Communications Devices and/or Terminals connected to the local area network LAN (1) and between the said Communications Devices and/or Terminals and the telecommunications networks and other computer networks;
- to logging (23) the historical data pertaining to the communications managed by the said apparatus;
- to displaying (14) on the visual display panels of the Communications Devices and/or Terminals connected to the computer networks, the interactive graphic interfaces and to managing such interfaces so as to allow, using standard browser methodology, the access to and the activation of the operating functions of the said apparatus.

25) Apparatus as claimed in claim 22 or 23, wherein the said section (15) supports communications between the various Communication devices and/or Terminals (2, 3, 4, 5, 7, 8, 10, 12, 29, 28) by retrieving from the storage section (23) the settings associated with each said Communications Devices and/or Terminals (2, 3, 4, 5, 7, 8, 10, 12, 29, 28).

26) Apparatus as claimed in claims 17 to 25, wherein the said Communications Devices and/or Terminals connected to the local area network LAN (1) can include the following list:

- a Personal Computer or Client Processor - device (2),
an IP Phone - Communications Terminal (3),
a Palmtop PDA Computer that may be fitted with a loudspeaker and microphone - device (4),
5 a Personal Computer or Client Processor fitted with headphones, a microphone and a webcam - device (5),
an Analog/digital and Digital/analog Adaptor for POTS analog telephones - (6)
a POTS analog phone - Communications Terminal (7),
a standard analog fax machine - Communications Terminal (8),
10 a Router with or without a firewall (9),
a Communications Device and/or Terminal enabling transmission and reception via satellite, connected to the LAN through the Router (10),
a Personal Computer or Client Processor, connected to the Internet, and fitted with headphones, a microphone and a webcam - device (12),
15 a telephone Device or Terminal for the public wireless telecommunications network (GSM, UMTS, etc.) with ISDN, GSM, GPRS, etc., connections (25), and
a Communications Device and/or Terminal enabling transmission and reception via satellite, connected by satellite to the Communications Device and/or Terminal (10).
27) Apparatus as claimed in claims 22 to 26, wherein the said logical-functional sections (16-22) designed to interface the said apparatus with equipment connected
20 to the local computer network, wireless telephone devices, wired telephone devices and the Internet, incorporate:
a section (16) that, in respect of telephone calls, acts as an interface between the said apparatus and the said local area network LAN (16a), the said public PSTN telecommunications network (16b) and the said public GSM/UMTS wireless network (16c);
25 a section (17) that, in respect of facsimile transmissions, acts as an interface between the said apparatus and the said local area network LAN (17d) as well as the said public PSTN telecommunications network (17e);
30 a section (18) that, in respect of wireless telephone messages, acts as an interface between the said apparatus and wireless telephone devices (18f) and the local area network LAN (18g);
a section (19) that, in respect of video and multimedia communications, acts as an interface between the said apparatus and the said local area network LAN (19l), the
35 said public PSTN telecommunications network (19h) and the said public GSM/UMTS wireless network (19i);
a section (20) that, in respect of real time computer communications, acts as an interface between the said apparatus and the said local area network LAN (20m);
a section (21) that, in respect of e-mail communications, acts as an interface between
40 the said apparatus and the said local area network LAN (21n);
a section (22) that acts as an interface between the said apparatus and the said local area network LAN, in respect of any and all types of communications other than those mentioned above.
28) Apparatus as claimed in claims 17 to 27, wherein the access to specific sections
45 of the Database (23) and the activation of the operating functions of the said apparatus as well as the display of the data pertaining to the called party and the caller, and other data pertaining to the call underway, are enabled through interacting with two distinct groups of icons (31, 32) that appear on the Internet Web Browser displaying a graphical toolbar (39).

29) Apparatus as claimed in one or more of the preceding claims, comprising resources capable of routing each call only after the system has automatically searched for and selected the cheapest communications network available for each type of communication placed from Communications Devices and/or Terminals (2, 3, 4, 5, 7, 8, 10, 12, 29, 28) connected to LANs (1, 13) to Communications Devices and/or Terminals connected to the same LANs or to other public or private wired (26) or wireless (24) telecommunications or videocommunications networks, or satellite or other types of networks.

30) Apparatus as claimed in the preceding claims, comprising resources capable of automatically searching and selecting automatically the cheapest communications network (49, 50, 51) when the calls placed from Communications Devices or Terminals (40, 41, 43, 44, 53, 54, 58, 60) connected to LANs (48, 61) that are part of the in-house communications infrastructure of the same corporate group or company are addressed to the party called using this same method and belong to a specific wired or wireless telephony or videophone number grouping.

31) Apparatus as claimed in claim 29, comprising resources capable of automatically searching and selecting the cheapest communication network (49, 50, 51) when the calls placed from the Communications Devices or Terminals (40, 41, 43, 44) connected to the LAN (48) addressed to the Communication Devices or Terminals (53, 54, 58, 60), connected to LAN (61) that do not belong to the communications infrastructure of the same group or corporation, in the case where the parties called, who use the same method, belong to a specific wired or wireless telephone or videophone number grouping, are managed and addressed to the party called by an Internet Service Provider or Third Party (52) entrusted with the task of discriminating access, and as a result, enable the connection only between authorised numbers, assuring secure access to the LAN and to the Communications Devices and/or Terminals called (53, 54, 58, 60), through authentication upon the initiation of the call, belonging to the said specific number grouping.

32) Apparatus as claimed in one or more preceding claims, comprising resources capable of permitting, through the use of an Internet Web Browser, to enable, receive, control and manage all said types of communications to and from communications terminals connected to public and private communications networks for wired (26) and wireless (24) telecommunications and videocommunications, satellite or other networks, even through Communications Devices and Terminals stand alone (12) or connected (29) to LANs (13) situated in remote locations and in any event connected through digital networks or the Internet to the Local Area Network LAN (1) that incorporates the said central processor or Network Server (27).

33) Apparatus as claimed in the preceding claims, comprising resources capable of initiating, receiving, controlling and managing all the said types of communications even between Communications Devices and/or Terminals situated in remote locations either stand-alone (12) or connected (29) to LANs (13) situated in remote locations, themselves connected to the LAN (1), that incorporates the said central processor or Network Server (27), through digital networks or the Internet.

34) Apparatus as claimed in one or more preceding claims, comprising the resources capable, through an Internet Web Browser incorporating one or more Toolbars (30), of enabling, receiving, monitoring and managing from any Communications Device or Terminal (40, 41, 43, 44) connected to the LAN (48), equipped or associated with a visual display panel, one or more simultaneous outbound calls (37) sent automatically or manually by the caller (40, 41, 43, 44) over various

telecommunications and/or videocommunications networks (49, 50, 51) so as to reach the party called (53, 54, 58, 60) connected to another LAN (61), such called party being able to use the said method and the said Internet Web Browser incorporating one or more Toolbars (30) to enable, receive, monitor and manage one or more simultaneous telecommunications and/or videocommunications calls (39).

35) Apparatus as claimed in claims 16 to 34, wherein the operating functions accessed and activated from any Communications Device and/or Terminal using Internet Web Browser methodology include:

In the case of telephone or video calls: the recording of the call, placing the caller on hold, redirecting the call to another terminal, initiating of a conference call with several users, attribution to a cost centre, direct connection to a web-based database, enabling and managing multiple outbound and inbound calls simultaneously, automatic dialling of a number stored in the phone book, notice of calls received;

In the case of facsimile transmission, SMS, MMS and e-mail messages: simultaneous and sequential sending to several users, attribution of the communication to a cost centre, notice of arrival of the message or facsimile transmission using a flashing icon, as well as the logging of the data pertaining to the communication.

36) Method and apparatus for the initiation, reception, control and unified management, through an Internet Browser, of all types of said communications such as telephone calls, facsimile transmissions, SMS and/or MMS messages, video communication, e-mail messages, chat, and multimedia communications in general between Communication Devices and/or Terminals connected to communications and telecommunications networks capable of supporting, in an integrated manner, all types of said communications and computer data transmissions, described and illustrated in substance, with the help of the attached drawings and for the purposes mentioned above.